APPLICATION

of

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for

UNITED STATES LETTERS PATENT

on

DRYWALL TRIM REINFORCED PACKAGE AND METHOD OF PACKAGING SUCH DRYWALL TRIM

Client ID/Matter No. CONTC.65409

Sheets of Drawing Figures: 3

Express Mail Label No. EL 973636415 US

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DRYWALL TRIM REINFORCED PACKAGE AND METHOD OF PACKAGING SUCH DRYWALL TRIM

Background of the Invention

[0001] 1. Field of the Invention:

[0002] The present invention relates generally to packaging and more particularly to packaging for storing, supporting and shipping flexible drywall trim devices.

[0003] 2. General Background and State of the Art:

[0004] The design and construction of packaging to receive and support odd shaped objects have long been a challenge. Corrugated cardboard has been a popular lightweight and inexpensive sheet material for the constructing of different packaging.

[0005] The finishing of corners and seams between drywall panels has long posed a problem. Elongated corner beads have long been used to finish such corners. Such beads typically consist of a length corresponding with the overall height of drywall panel walls and having a cross-sectional configuration corresponding with the configuration of the joint to be finished, such as a square corner, or corners having joining angles of different configurations. It has been common practice to stack such beads together in a rectangular-in-cross-section elongated corrugated cardboard package for shipping to the construction finishing site. The packages, however, are often subjected to rough handling during shipping, causing the flanges of the corner beads to be flexed or twisted, frequently beyond the yield point, resulting in irregularities or bends in the beads which can lead to rejection or time consuming straightening techniques during the installation process. The situation is exacerbated for tape-on style beads and trim which incorporate paper wings or flaps projecting beyond the edges of metal cores and particularly susceptible to being flexed and bent. In any event, the efficiency of installation demands that the configuration of such fittings maintained throughout storage and shipping and that the product be delivered to the work site without twists or warping throughout their length.

[0006] Containers of various configurations have been proposed for packaging elongated strips. Containers have even been proposed to be wrapped about a collection of elongated strips for the purpose of allowing for flexing thereof. A device of this type is shown in U.S. Patent No.

2,340,422 to Okonski. Containers of this type are not intended to support drywall strips against flexing and bending during storage and shipment.

[0007] There, thus is a need for a package configured to support the packaged drywall beads and trim against bending or twisting.

Invention Summary

[0008] The elongated package of the present invention is constructed of a sheet folded along fold lines to form first and second sidewalls. The sheet projects beyond the bottom extent of one of the sidewalls and turns inwardly toward the other and is configured with a raised support rib defining the cross-sectional configuration of a drywall strip support such strip. In the preferred embodiment, such rib supports a drywall finish strip having a generally orthogonal cross-sectional configuration.

Brief Description of the Drawings

[0009] Figure 1 is a broken plan view of a sheet of a corrugated cardboard incorporating fold lines in accordance with the present invention;

[00010] Fig. 2 is a broken prospective view of a package constructed from the sheet shown in Fig. 1 in accordance with the present invention shown in Fig. 1;

[00011] Fig. 3 is a transverse sectional view, in a large scale, taken from the package shown in Fig. 2;

[00012] Fig. 4 is a vertical sectional view, in a large scale, taken along the line 4-4 of Fig. 3;

[00013] Fig. 5 is a broken perspective view of a sheet which may be utilized to form a packaging sleeve in accordance with one aspect of the present invention;

[00014] Fig. 6 is a broken perspective view similar to Fig. 5 with a sheet folded into a finished sleeve;

[00015] Fig. 7 is a transverse sectional view, in a large scale, taken along the line 7-7 of Fig. 6;

[00016] Fig. 8 is a transverse sectional view, in a large scale, taken along the line 8-8 of Fig. 6;

[00017] Fig. 9 is a transverse sectional view, in a large scale, taken along the line 7-7 of Fig. 6;

[00018] Fig. 10 is a transverse sectional view similar to Figs. 9 and 7 showing the package of Fig. 2 received within the sleeve of Fig. 6; and

[00019] Fig. 11 is a partial transverse sectional view, in a large scale, similar to Fig. 9 and showing elongated angular strips packaged therein.

Detailed Description of the Preferred Embodiments

[00020] Referring to Figs. 1-3, the package of the present invention is fabricated from a flat sheet 21 and may be folded along fold lines to form, generally, a top wall 23, sidewalls 25 and 27 and an extension from the sidewall 25 which forms a rib device 29 and 31 rising upwardly in the interior of the package as viewed in Fig. 3.

[00021] In the construction industry, the finishing of joints, such as corner joints between drywall panels to a pleasing appearance can be relatively time consuming. This problem led to the development of finishing trim such as corner beads which include a pair of angular flanges for laying down over the marginal edges of joining drywall panels and which may themselves be formed of, or covered with, fibrous material, such as paper having a texture and surface similar to that of paper covering the drywall panels. A device of this type is disclosed in U.S. Patent Application Pub. No. 2003/0033770 Al assigned to the assignee of the instant application.

[00022] Corner beads of this type are typically on the order of 9 feet long. Care is taken during manufacture to form angular flanges in a flat plane. This is intended to allow the craftsman on the construction site to withdraw such beads from the packaging in which they are packaged and apply the flanges of beads to the planer panels forming corner or other joint being covered. Typically, a joint compound or other material is applied to the joint to adhere the trim piece in place to form a straight-line attractive joint covering. Drywall workers involved in the finishing process are relatively skilled and enjoy a relatively high pay scale either on piecework or an hourly wage. Thus, it is important for the success of a construction project that the finishing process take place in a relatively efficient manner. Furthermore, since the quantity of corner bead trim material supplied to the job site is coordinated in accordance with the lineal feed of joint to be covered, it is advantageous there be minimal rejection of the bead material on site so

that the quantity of material required corresponds with the quantity scheduled for the particular job site. To this end, it is important that the quality and configuration of the corner bead is maintained during the package, shipping and handling of the product prior to the installation step.

[00023] It has been common practice to package a number of such corner beads together in a rectangular in cross-section cardboard packaging for storage and shipping to the job site. Unfortunately, such packaging typically fails to incorporate any effective means for supporting and maintaining the corner beads in the desired configuration thus often resulting in bending or cracking the flanges of such beads during shipment and handling, even to the extent that the flanges are sometimes bent beyond the yield point resulting in them taking a permanent set either in angular orientation relative to one another or in assuming longitudinal configuration which is non linear thereby failing to match the linear configuration of a drywall panel on which the flange or flanges are to be mounted. This is the problem to which the package of the present invention is directed.

[00024] One preferred embodiment of the package of the present invention is constructed from a sheet 21 made of corrugated cardboard. Referring to Figs. 1 and 3, for corner beads or other drywall trim having designed to be installed on joints formed between drywall panel used in residential or office construction having 9 foot ceilings, the sheet will be cut to a length of 9 feet and may typically have a width of about 1 ½ feet to be, when folded along respective creased fold lines 35-49, form return panel 51, first and second rib panels 53 and 55, bottom wall 29, first sidewall 25, top wall panels 57 and 59, second sidewall panel 27 and the closure flap 61. A plurality of staples 63 are stapled through the flap 61 bottom wall 29 and the return 51 to secure the package in its erected position.

[00025] The sheet 21 itself may be constructed of numerous different materials, such as solid cardboard, fiber board, corrugated cardboard, plastic or any other structural sheet having sufficient rigidity to provide structural support and of a sufficiently light weight character as to provide practical packaging function. By sufficiently rigid I mean the sheet, while having flexibility, will be sufficiently rigid in the unweakened areas away from the fold lines to, when erected and stapled (Fig. 3), to resist crushing or bending during normal handling associated with

loading and unloading from transport trailers and to withstand stacking of a number of erected packages in warehouses and storage sheds.

[00026] As viewed in Fig. 1, the sheet 21 may be creased or perforated during the manufacturing process to form the respective fold lines 35-49 defining hinges for convenience of folding thereof. When the package is to be formed and assembled, the workman may fold the sheet along the fold lines 35, 37 and 39 to form the turn back panel 51 at the bottom of the triangularly shaped rib device 31 and to form the upwardly and convergently angled rib panels 53 and 55 (Fig. 3). Further folding along the crease lines 41, 43, 47 and 49 will form the sidewalls 25, angular top panels 57 and 59, sidewall 27 and closure flap 61.

[00027] In the embodiment shown, the package is intended to receive drywall beads, generally designated 71 (Fig. 9) for packaging and transportation thereof. The drywall beads 71 are of the type sometimes referred to as tape-on beads and include, as an example, respective angular metal cores 73 (Fig. 11) which include flanges bent transversely at an angle of slightly less and than 90° to one another to, in use, fit tightly over the right angle corner of a joint between drywall panels. The cores 73 are covered by a paper 75 that projects laterally beyond the opposite edges of such core to form flexible paper wings 77 which are intended to, in practice, overlie the marginal edges of the wallboard being covered. It is a problem with these so called paper beads 71 that, when packaged in conventional packages for shipping, the cores and/or wings roll or twist during handling and maneuvering of the packaging thus causing the paper wings, and sometimes the cores themselves to become twisted or bent out of the plane of the body of the respective wings or core flanges such that they do not mate well against the flat surface of the drywall panels. It is the problem associated with this rolling and bending to which the present invention is addressed.

[00028] A typical drywall corner bead might have angular metal flanges having a width of about 1 ¼ inches with the paper wings extending 3/4 of an inch to and an inch beyond the distal edges thereof to cooperate with the respective core flanges to form a lateral span extending of about 2 to 2 ¼ inches from the corner of the bead. The width of the respective rib panels 53 and 55 is such as to provide support for the entire core flange and paper wing on each side of the respective beads to resist rolling and bending of the entire flange and wing. In the preferred

embodiment such panels have a width of about 2 ¼ inches to provide full lateral support for beads having a flange and wing span of 2 to 2 1/8 inches.

[00029] As will be apparent to those skilled in the art, the package of the present invention can be constructed to support drywall trim having many different cross-sectional configurations, as for example, bull-nose drywall trim or beads with a core with a rounded transverse cross-section and lateral flanges projecting at various angles varying from about 90° to one another up to 120° as with the right angle beads the flanges are covered with paper, which projects beyond the metal flanges to define paper wings. The shape of the support rib and span of the panels 53 and 55 will be configured to compliment the transverse shape of the bead a trim strip being packaged.

[00030] For the preferred embodiment, the rib panels 53 and 55 project orthogonal to one another at substantially 90° to one another such that in the flanges 75 of the respective core 73 are nested there against, those flanges, angling relative to one another at an angle slightly less than 90°, are thus, when nested on the rib device 31, biased outwardly slightly away from one another to thus form a nested firm fit unto the support rib 31 itself.

[00031] The packaging of the present invention may be conveniently fabricated from the sheets 21 with perforations or otherwise diminished thickness to produce creases defining fold lines 35-49 and a supply of sheets in their flattened state may be stored in stacked relationship ready to be erected to receive the drywall beads to be packaged. When a supply of beads have been manufactured, a quantity of sheets 21 may be withdrawn from the storage stack and conveniently and rapidly folded along the crease lines 35-49 as described above to form the cross-sectional configuration shown in Fig. 3 and the staples 63 apply to staple the panels in position. A quantity of drywall beads 71 may then be inserted from one end or the other of the erected package to nest in stacked relationship on the rib 31 as shown in Fig. 11 for shipping. The ends of the package may be closed to capture the beads in place or, as described below, inserted in a external sleeve, generally designated 81 (Fig. 6).

[00032] The sleeve 81 is constructed from a flat sheet designated 83 (Fig. 5). In the preferred embodiment, the sheet 83 is made of corrugated cardboard but, in practice, may be made of anyone of a different number of sheet materials which provide sufficient body to maintain the shape shown in Fig. 7 and to cooperate in providing support for the package 23 inserted therein.

[00033] The sleeve 83 is formed with laterally spaced apart longitudinally extending fold lines 85, 87, 89 and 91 dividing the sheet into an internal flap 93 first sidewall 95 end wall 97 second sidewall 99 and bottom wall 101. Such fold lines may take many different forms, as for instance creases, diminished thickness of the sheet along the lines, perforations or any one of a number of forms well-known to those skilled in the art.

[00034] The sheet is stamped to be formed with flaps projecting from the opposite end to form respective, opposite end sidewall flaps 103 and 105 and end wall flaps 107 and 109. The flap 105 is formed with a pair of longitudinally spaced, transversely projecting fold back full lines 111 and 113 and a transversely projecting fastener slot 115 having one side thereof in alignment with a fold line 117, and finally, a turn back fold line 119. The fold lines are spaced longitudinally from one another to form, respectively, a first turn back panel 121 closure panel 123 and second turn back panel 125.

[00035] The other side panel 95 is formed on its opposite ends with longitudinally projecting closure flaps 127 having transversely projecting turn back fold lines 129 and 131 disposed in closed spaced relationship and a closure fold line 133 spaced there from to cooperate in forming a return panel 135 and closure panel 137.

[00036] The end walls 97 and 101 are formed with respective longitudinally projecting fold closure flaps 107 and 109, the flap 107 being formed at its base with close spaced transversely projecting return closure fold lines 141 and 143. The flap 109 is also formed in its base with close spaced return and closure fold lines 145 and 147. The sheet 83 is stamped to form longitudinally projecting clearance slots between the respective closure panels 103, 105, 107 and 109. The lateral outer side of the closure panel 109 is shaped to form at its base a longitudinally and inwardly angled relief 151 to provide for narrowing of the flap 109 to thereby provide clearance for folding into its assembled position as to be described herein after.

[00037] As with the packaging described above, the sleeve sheets 83 may be cut to size, shape and creased to form perforations along the fold lines 85-91 and the transverse fold lines described above, as well as to punch out the closure slots 115. The flat sheets 83 may be stacked in storage at the manufacturing facility available for erection when desired for the packaging process. As needed sheets 83 may be withdrawn from the storage stack quickly folded along the

fold lines 85-91 to form the generally rectangular construction shown in Fig. 7. Staples 181 will be inserted to staple the panels 101 and 93 in overlying relationship.

[00038] One end of the sleeve may then be closed by folding in the sidewall flap 105 along the fold lines 111 and 113 to recess the panel the distance of the return section 121 leaving the slot 115 opening transversely inwardly as shown in Fig. 8 with the return 125 turning longitudinally outwardly to lay flush against the opposite sidewall 95. The end wall flaps 107 and 109 are then folded inwardly and, finally, the flap 139 folded longitudinally inwardly along the fold lines 129 and 131 causing the return segment 133 to lie along the wall 95 and the closure panel to bend transversely inwardly so the fastening tongue 139 will be received in the fastening slot 115 (Fig. 8).

[00039] The package 23 may then be inserted telescopically into the open end of the sleeve 81 and such open end then closed by folding the closure flaps 105, 107, 109 and 103 of such open end inwardly as discussed here and above.

[00040] The entire package is then ready for shipping and the corner beads 71 contained within the package 23 will be protected and supported against unwanted rolling twisting. When the packaging reaches the construction site, the workman can easily gain access to the corner beads by withdrawing the fastener tongue 103 from the slot 115 to withdraw the flap 103 and consecutively withdraw the remaining flaps at one end of the sleeve to open the sleeve and gain access to the corner beads packaged within the package 23.

[00041] From the foregoing, it will apparent that the package of the present invention provides an economical and affective container for receiving and supporting elongated angular objects, such as drywall beads, against twisting, rolling and flexing during storage and shipment such as to maintain the integrity thereof for convenient and economic application thereof to drywall joints.

[00042] While the specification describes particular embodiments of the present invention, those of ordinary skill can devise variations of the present invention without departing from the inventive concept